

CLAIMS

1. Device for checking bores in or edges on an object of measurement, in particular, for recognizing burrs, comprising

a first distance sensor with a detector head positionable at a distance from the object of measurement, detector head and object of measurement being movable relative to one another;

wherein the detector head couples electromagnetically with the object of measurement or the object of measurement is able to be acted upon with an electromagnetic signal by the detector head, and the coupling with the object of measurement or an electromagnetic reaction signal of the object of measurement to the signal acting upon it is dependent upon a distance between detector head and object of measurement so that this distance is determinable in a contact-free manner, and a surface of the object of measurement is scannable by the detector head in a contact-free manner;

a second distance sensor by means of which an object of reference is scannable in correlation with the first distance sensor; and

a comparator for comparing the measurement signals of the first distance sensor and the second distance sensor so that the object of measurement is characterizable in relation to the object of reference.

2. Device in accordance with Claim 1, wherein the first distance sensor and the second distance sensor are of essentially the same design.
3. Device in accordance with Claim 1, wherein first distance sensor and second distance sensor are coupled to one another in a fixed distance relationship or a fixed angular relationship or in both a fixed distance relationship and a fixed angular relationship during a checking procedure.
4. Device in accordance with Claim 1, wherein a guide device is provided for guiding the second distance sensor relative to the object of reference in a defined manner.
5. Device in accordance with Claim 4, wherein the first distance sensor follows the guidance of the second distance sensor so that the object of measurement is scannable in a guided manner.
6. Device in accordance with Claim 1, wherein the object of reference is prepared.
7. Device in accordance with Claim 1, wherein the comparator forms a differential signal for the measurement signals of the first distance sensor and the second distance sensor.
8. Device in accordance with Claim 7, wherein the comparator comprises a threshold value switch.

9. Device in accordance with Claim 1, wherein the first distance sensor or a first distance sensor combination comprising the first distance sensor and at least one further distance sensor for scanning the object of measurement comprises a plurality of areas of sight.
10. Device in accordance with Claim 1, wherein the second distance sensor or a second distance sensor combination comprising the second distance sensor and at least one further distance sensor for scanning the object of reference comprises a plurality of areas of sight.
11. Device in accordance with Claim 9, wherein the areas of sight are arranged such that an identical surface area of the object of measurement is scannable upon linear movement of the first distance sensor or the first distance sensor combination.
12. Device in accordance with Claim 10, wherein the areas of sight are arranged such that an identical surface area of the object of reference is scannable upon linear movement of the second distance sensor or the second distance sensor combination.
13. Device in accordance with Claim 9, wherein areas of sight are arranged such that an identical surface area of the object of measurement is scannable upon rotational movement of the first distance sensor or the first distance sensor combination.
14. Device in accordance with Claim 10, wherein areas of sight are arranged such that an identical surface area of the object of

reference is scannable upon rotational movement of the second distance sensor or the second distance sensor combination.

15. Device in accordance with Claim 9, wherein areas of sight are arranged such that opposite surfaces of the object of measurement are scannable.
16. Device in accordance with Claim 10, wherein areas of sight are arranged such that opposite surfaces of the object of reference are scannable.
17. Device in accordance with Claim 9, wherein one or several areas of sight is or are externally or internally selectable.
18. Device in accordance with Claim 10, wherein one or several areas of sight is or are externally or internally selectable.
19. Device in accordance with Claim 1, wherein a distance sensor or a combination of several distance sensors is designed as a probe which is insertable into a bore.
20. Device in accordance with Claim 1, wherein object of measurement and object of reference are made of a metallic material.
21. Device in accordance with Claim 1, wherein the first distance sensor is an inductive sensor which inductively couples with the object of measurement.

22. Device in accordance with Claim 1, wherein the second distance sensor is an inductive sensor which inductively couples with the object of reference.
23. Device in accordance with Claim 21, wherein an inductive sensor comprises a plurality of coils.
24. Device in accordance with Claim 22, wherein an inductive sensor comprises a plurality of coils.
25. Method for checking bores in or edges on an object of measurement, and, in particular, for recognizing burrs, comprising:
 - scanning a prepared object of reference with a distance sensor;
and
 - scanning the object of measurement in correlation therewith with a further distance sensor; and
 - comparing the measurement signals of the two distance sensors.
26. Method in accordance with Claim 25, wherein the distance sensor and the further distance sensor are of essentially the same design.
27. Method in accordance with Claim 25, wherein the distance sensors are inserted like a probe with a respective detector head into the bores of object of reference and object of measurement.

28. Method in accordance with Claim 25, wherein a distance sensor comprises a detector head which electromagnetically couples with the object or acts upon the object with a signal and receives a reaction signal from the object, the electromagnetic coupling or the reaction signal being a function of the distance of the detector head from the object.